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(54) Title: CANCER THERAPY USING BETA GLUCAN AND ANTIBODIES

(57) Abstract: The present invention relates to methods of using neutral soluble glucan and monoclonal antibodies for antitumor therapy. Neutral soluble Beta (1,3; 1,6) glucan (NSG) enhances the tumoricidal activity of the innate immune system by binding to the C3 complement protein receptor CR3. The glucan does not stimulate the induction of inflammatory cytokines. Also described are methods of using whole glucan particles (WGP) as an immunomodulator by inducing a shift from a Th2 response to the Th1 response, leading to an enhanced antitumor cytotoxic T-cell response.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/27975

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 31/715, 39/395

US CL : 424/155.1; 514/54

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/155.1; 514/54

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CAPLUS, MEDLINE, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Database HCAPLUS in STN, (Columbus, OH, USA), DN 137:119657, Cheung, N., 'Antitumor antibody-enhancing glucan,' WO 2002058711, 20020801, abstract.	1-13, 15
Y	Database MEDLINE in STN (Columbus, OH, USA), AN 2000285552, Yadomae, T., 'Structure and biological activities of fungal beta-1,3-glucans,' J. Pharmaceutical Soc. Jap., 2000 May, 120 (5) 413-31, abstract.	14

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
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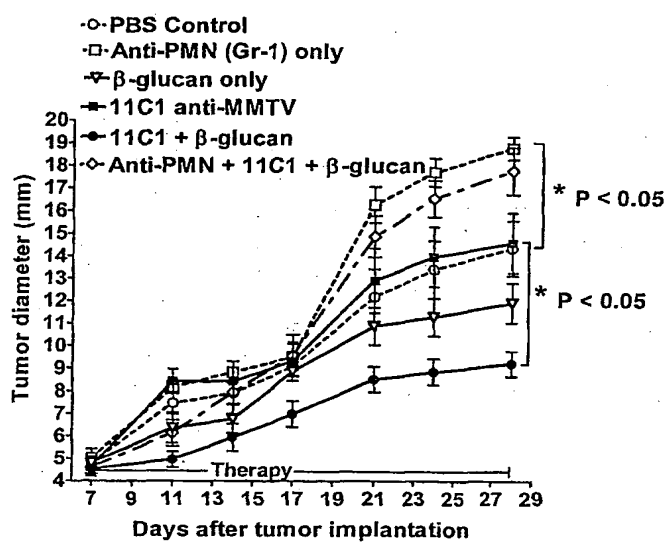


FIG. 25

26/26

FIG. 26A

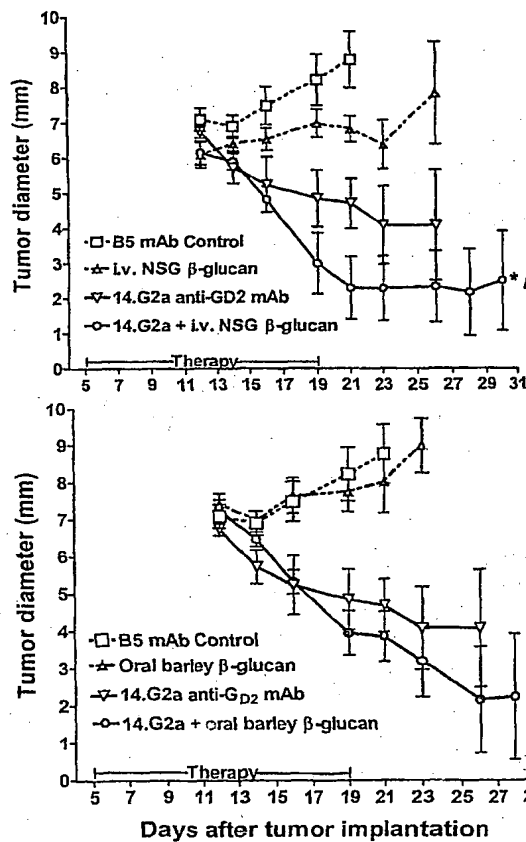


FIG. 26B

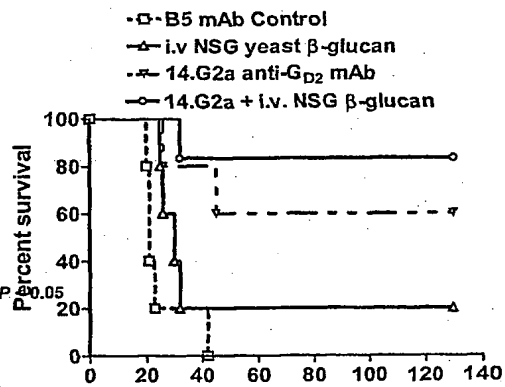


FIG. 26C

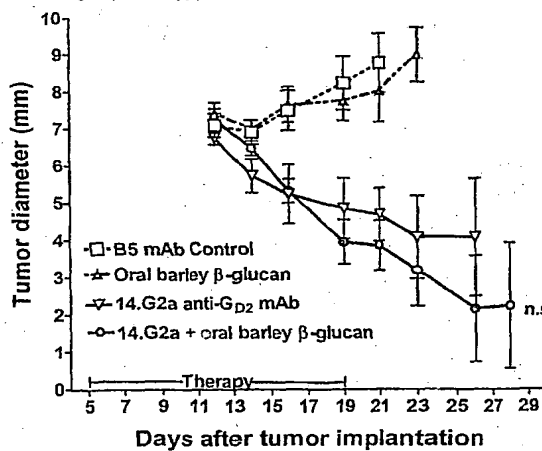


FIG. 26D

